ICEUP

Iceberg **C**ontribution to **E**CCO **U**pgrade and **P**erformance

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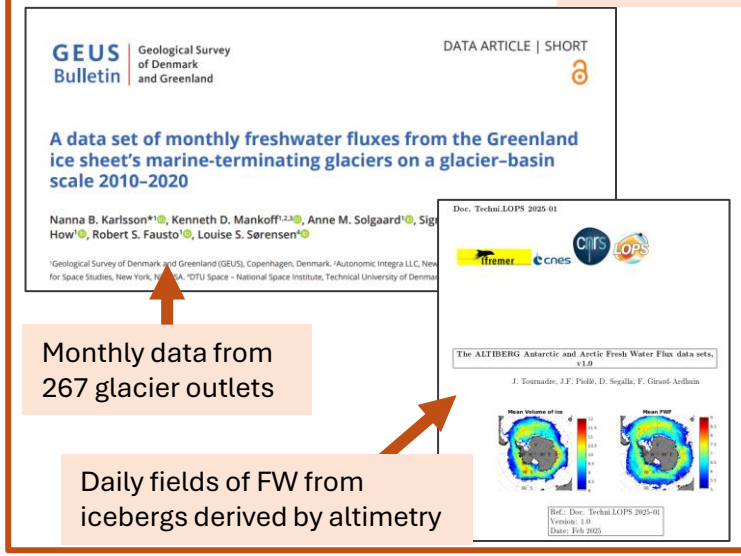
OVERVIEW

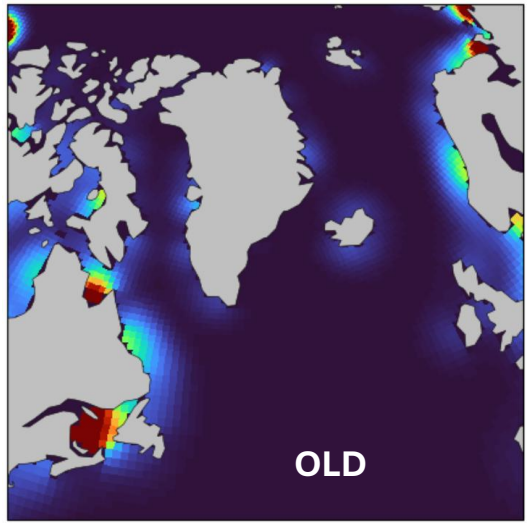
- The Greenland FW forcing in ECCOV4 is underestimated by an order of magnitude
- This project aims a creating a more realistic field
- What happens with the temperature/salinity/currents/sea ice when the freshwater flux is increased?

PRODUCTS / RESSOURCES

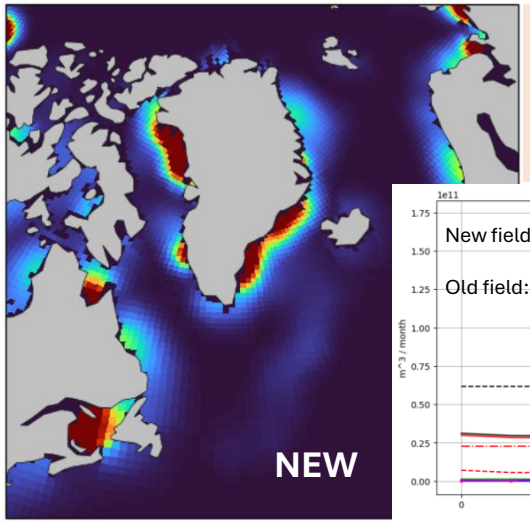


Monthly data from 267 glacier outlets

Daily fields of FW from icebergs derived by altimetry

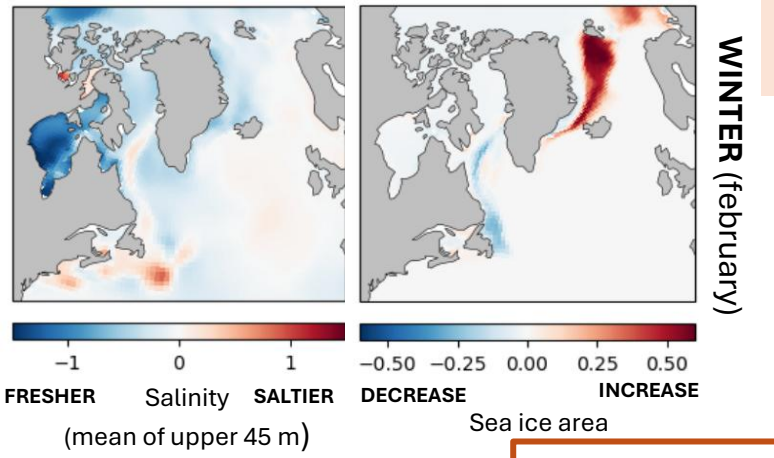


Updated the runoff field with realistic FW forcing from Greenland ice sheet and spatial distribution of FW from icebergs

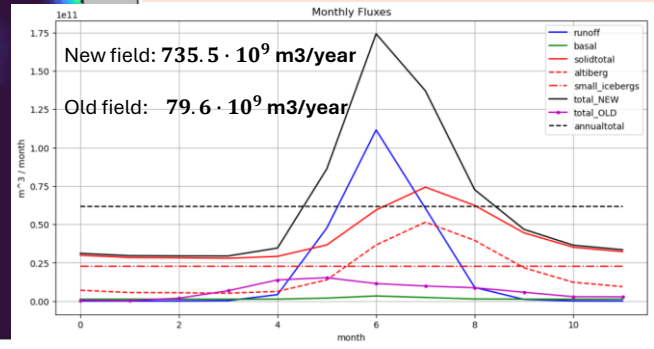


10 year (2003 – 2013) monthly average difference between ECCOv4r5 (old runoff) and ECCOv4r4 (new runoff), New minus old

The upper ocean is getting fresher both in winter and in summer. We see more sea ice in winter (in the nordic seas) and less sea ice in summer (north of Greenland).



The new FW field is still just a climatology. But data is there to create a timevarying field



CONCLUSIONS

- The new FW field agrees with data from GEUS in terms of annual total flux
- Improvements in code needed especially in projecting the fields to ECCO grids and it could be updated to work on grids with higher resolution than LLC90
- Future works could implement a time-varying field